

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (currently amended) A method of processing a polymer layer including Si-C bonds including the steps of heating the layer to desorb moisture and harden the layer and exposing the layer to a hydrogen plasma during the heating process, wherein the polymer layer includes carbon subsequent to said heating and exposing.

2. (canceled)

3. (original) A method as claimed in Claim 1 wherein the plasma is present throughout the heating stage.

4. (previously presented) A method as claimed in Claim 1 where the layer is supported on an electrode and the plasma is at least partially maintained by an RF power source connected to the electrode.

5. (original) A method as claimed in Claim 4 wherein the power source is between 400 and 750 watts.

6. (previously presented) A method as claimed in claim 1 wherein the plasma is at least partially maintained by an RF power source feeding an electrode spaced from the layer.

7. (original) A method as claimed in Claim 6 wherein the power is supplied between 400 and 750 watts.

8. (previously amended) A method as claimed in Claim 1 wherein the plasma is at least partially maintained by an inductively coupled power source.

9. (original) A method as claimed in Claim 8 wherein the power supplied is between 400 and 750 watts.

10. (previously presented) A method as claimed in Claim 1 wherein the heating step lasts for between 2 and 4 minutes.

11. (original) A method as claimed in Claim 10 wherein the heating step lasts for 3 minutes.

12. (currently amended) A method as claimed in Claim 1 wherein the layer is supported as on a platen heated between 350°C and 550°C.

13. (currently amended) A method as claimed in Claim 1 wherein:

(1) the plasma is maintained by an RF power source connected to a platen on which the layer is supported and the power source provides substantially 600 watts;

~~(2) the plasma is a hydrogen plasma;~~

~~(3)~~ (2) the platen is heated to between 400°C and 500°C; and

~~(4)~~ (3) the heating step lasts for substantially 3 minutes.

14. (previously presented) A method as claimed in Claim 1 wherein the dielectric constant of the processed layer is below 3.00.

15. (previously presented) A method as claimed in Claim 1 wherein the layer is treated by the plasma to depth $>3000\text{\AA}$.

16. (previously presented) A method as claimed in Claim 1 wherein the layer is treated by the plasma to a depth of $<600\text{\AA}$.

17. (previously presented) A method as claimed in Claim 1, wherein the layer is an insulating layer on a semiconductor wafer.

18. (previously presented) A method as claimed in Claim 1, wherein the processing method reduces cracking in the layer.

19. (previously presented) A method as claimed in Claim 1, wherein the processing method improves the wet etch rate of the layer.

20. (new) A method as claimed in Claim 1, wherein the polymer layer includes Si-C bonds subsequent to said heating and exposing.

21. (new) A method of processing a polymer layer including Si-C bonds including the steps of heating the layer to desorb moisture and harden the layer and exposing the layer to a hydrogen plasma during the heating process, wherein the polymer layer includes carbon subsequent to said heating and exposing, and wherein a thickness of the layer is in a range of $7,000\text{\AA}$ to $9,000\text{\AA}$.